Proposal # 2001 - 6201 (Office Use Only)

A. PSP Cover Sheet

Proposal Title: Wildlife-Friendly Farming Demonstration

Applicant Name: Bureau of Land Management, Folsom Field Office, Cosumnes River Preserve

Contact Name: Rick Cooper

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Amount of funding requested: $1,314,310.00

Some entities charge different costs dependent on the source of the funds. If it is different for state or federal funds list below.

State cost _____ Federal cost _____

Cost share partners? X Yes ____ No

Identify partners and amount contributed by each M&T Staten Ranch $417,364.00, California Department of Water Resources $67,550.00

Indicate the Topic for which you are applying (check only one box).

- [ ] Natural Flow Regimes
- [ ] Nonnative Invasive Species
- [ ] Channel Dynamics/Sediment Transport
- [ ] Flood Management
- [ ] Shallow Water Tidal/Marsh Habitat
- [ ] Contaminants
- [X] Beyond the Riparian Corridor
- [ ] Local Watershed Stewardship
- [ ] Environmental Education
- [ ] Special Status Species Surveys and Studies
- [ ] Fishery Monitoring, Assessment and Research
- [ ] Fish Screens

What county or counties is the project located in? San Joaquin

What CALFED ecozone is the project located in? See attached list and indicate number. Be as specific as possible. 11.2 Mokelumne River

Indicate the type of applicant (check only one box):

- [ ] State agency
- [ ] Public/Non-profit joint venture
- [ ] Local government/district
- [ ] University
- [ ] Other: _____
- [X] Federal agency
- [ ] Non-profit
- [ ] Tribes
- [ ] Private **party**

Indicate the primary species which the proposal addresses (check all that apply):

- [ ] San Joaquin and East-side Delta tributaries fall-run chinook salmon
- [ ] Winter-run chinook salmon
- [ ] Late-fall run chinook salmon
- [ ] Delta smelt
- [ ] Splittail
- [ ] Green sturgeon
- [ ] White Sturgeon
- [X] Waterfowl and Shorebirds
- [X] Migratory birds
- [X] Other listed T/E species: _Greater sandhill crane
- [ ] Spring-run chinook salmon
- [ ] Fall-run chinook salmon
- [ ] Longfin smelt
- [ ] Steelhead trout
- [ ] Striped bass
- [ ] All chinook species
- [ ] All anadromous salmonids
- [ ] American shad

Indicate the type **of** project (check only one box):

- [ ] Research/Monitoring
- [X] Pilot/Demo Project
- [ ] Full-scale Implementation
- [ ] Watershed Planning
- [ ] Education

Is this a next-phase of an ongoing project? Yes ___ No X___
Have you received funding from CALFED before? Yes X No ___

If yes, list project title and CALFED number: Riparian Corridor Acquisition and Restoration Assessment, BLM Sacramento River Area, Redding Field Office #99-B12

Have you received funding from CVPIA before? Yes ___ No X

If yes, list CVPIA program providing funding, project title and CVPIA number (if applicable):

_____

By signing below, the applicant declares the following:

- The truthfulness of all representations in their proposal;
- The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

Bureau of Land Manageement, Rick Cooper
Printed name of applicant

Rick Cooper
Signature of applicant

B. EXECUTIVE SUMMARY

Title of Project:	Wildlife-Friendly Farming Demonstration
Amount Requested:	$1,314,310.00
Applicant Name:	Bureau of Land Management
Address:	Cosumnes River Preserve, 13501 Franklin Blvd., Galt 95632
Phone:	(916) 683-1701
FAX:	(916)683-1702
E-mail of primary contact:	rcooper@cosumnes.org
Participants and collaborators:	Cosumnes River Preserve partners

The Bureau of Land Management (BLM) requests $1,310,884.00 to develop a 9,200 acre demonstration project for wildlife-friendly farming practices on Cosumnes River Preserve's Staten Island area.

The ecological and biological goals of the project are to

- ***Fucilitate the recovery of the greater sandhill crane: ERP Goal 1***
- ***Increase the diversity of habitat in the East Delta and provide connectivity to Woodbridge Ecological Preserve and Stone Lakes NWF Refuge: ERP Goal 4***
- ***Evaluate the effects of water management and waterfowl use on carbon and nutrient levels in the discharge water: ERP Goal 6***

Staten Island is located in northern San Joaquin County, between the North and South Forks of the Mokelumne River. The project lies within the Sacramento-San Joaquin Delta Ecological Management Zone and the East Delta Ecological Management Unit.

An unsurpassed opportunity exists on Staten Island to (1) support and improve wildlife-friendly agriculture that will foster recovery of at-risk native species such as greater sandhill crane and (2) to investigate the effects of different agricultural management practices on wildlife populations and water quality. Staten Island is recognized nationally as an important site in California for wintering waterfowl and is unsurpassed in the Delta as wintering habitat for greater and lesser sandhill cranes (Littlefield and Ivey 2000). There are few if any places in the Delta where the opportunity to have positive impacts on wintering waterfowl and sustainable agriculture exists at such a large scale.

This is Phase I of a joint (Bureau of Land Management and The Nature Conservancy), three phase conservation initiative for Staten Island which is designed to ensure permanent protection and optimal management for the Island. Phase II, which is outlined in a separate proposal by the TNC, involves land acquisition and baseline monitoring. Phase III will be the development and implementation of restoration and monitoring plans to address uncertainties and guide future management actions.

This proposal has two basic components. The first consists of an infrastructure construction component consisting of low interior cross levees and a high volume discharge pump to improve water management capability on the Island. These features will allow the Preserve to increase the quality, quantity and duration of flooded habitat for greater sandhill cranes (state-listed species) and northern pintail (federal species of concern). The second is a project-monitoring component, which will evaluate water management practices effects on habitat use by target species and on water quality specifically dissolved carbon, being discharged from the Island.

C. PROJECT DESCRIPTION

1. Statement of the Problem

a. Problem

1) Wetlands Loss. Wildlife Declines. and Wildlife-Friendlv Agriculture

Delta wetlands and the wildlife populations that depend on them have significantly declined as a result of the development of agricultural islands. The loss of wetlands has been a major factor in the decline of waterfowl and sandhill cranes that depend on the Delta for wintering habitat. In many places, agricultural lands planted in annual grain and row crops have become surrogate habitat for wildlife (CALFED 1999a). Waterfowl and cranes now use rice, corn, alfalfa, and other grains (Collins and Paullin 1988, Elphick and Oring 1998, Elphick 2000, Littlefield and Ivey 2000). But these croplands are now being converted to much less compatible land uses, such as perennial crops and urban development. The conversion has been dramatic; in south Sacramento County alone the acreage of vineyards has increased five-fold in the past five years, from 5,000 acres to 25,000 acres (TNC in preparation). Neither urbanization nor permanent crop agriculture is compatible with maintenance of Delta ecosystem functions and values. The ERP vision for the Delta calls for increasing the area of Delta corn fields and pastures flooded in winter and spring to provide high-quality foraging habitat for wintering and migrating waterfowl, greater sandhill cranes, shorebirds, and associated wildlife (CALFED 1999a).

An unsurpassed opportunity exists on Staten Island to (1) support and improve wildlife-friendly agriculture that will foster recovery of at-risk native species such as greater sandhill crane (ERP Goal 1) and (2) investigate the effects of different agricultural practices on wildlife populations and water quality. The seasonally flooded agricultural fields of Staten Island provide important habitat for waterfowl and sandhill cranes wintering in the Delta. The wildlife habitat objectives of this proposal are to:

- Develop an efficient and cost effective water management infrastructure on Staten Island to maintain and improve sustainable agriculture and wildlife-friendly farm practices. This will increase habitat availability by allowing an increase the acreage of seasonally flooded corn to 2,500-5,000 acres and an increase in the duration of flooding.
- Determine the effect of winter flooding strategies on target bird species, namely greater sandhill crane (state listed threatened species) and northern pintail (federal species of concern).

2) Water Quality and Productivity

The effects of the discharge from seasonally flooded agricultural fields on Delta water quality and food web productivity are unknown. The discharge from flooded fields can affect food-web productivity by affecting the carbon and nutrient loads delivered to the estuary (CALFED 1999a). Drinking water quality is another issue. Island drainage in the Delta contributes large amounts of dissolved organic carbon (DOC). This augments carbon being transported from the watersheds of the Sacramento and San Joaquin rivers. The molecular structure of the carbon from island drains is also of a very reactive type (DWR Municipal Water Quality Investigations Program five-year report 1994.) At treatment plants, DOC reacts with disinfectants such as chlorine to form suspected carcinogens (CALFED Organic Carbon Workshop 1999). Algal blooms stimulated by nutrients can clog intake facilities (D. Peterson, DWR pers. comm.) and cause taste and odor problems (K Kerri, CSUS Water Treatment Plant Operation – Field Study Guide 1996).

Staten Island is considered a medium to low density peat island. But its current location in relation to one of the preferred CALFED alternatives – the through-Delta alternative – elevates the importance of studying the discharge from this island. The water quality objective of this proposal is to:

- Determine the effect of winter flooding on the quantity and quality of organic carbon and nutrients seasonally discharged from the managed wetlands into the Delta channels.

b. Conceptual Model

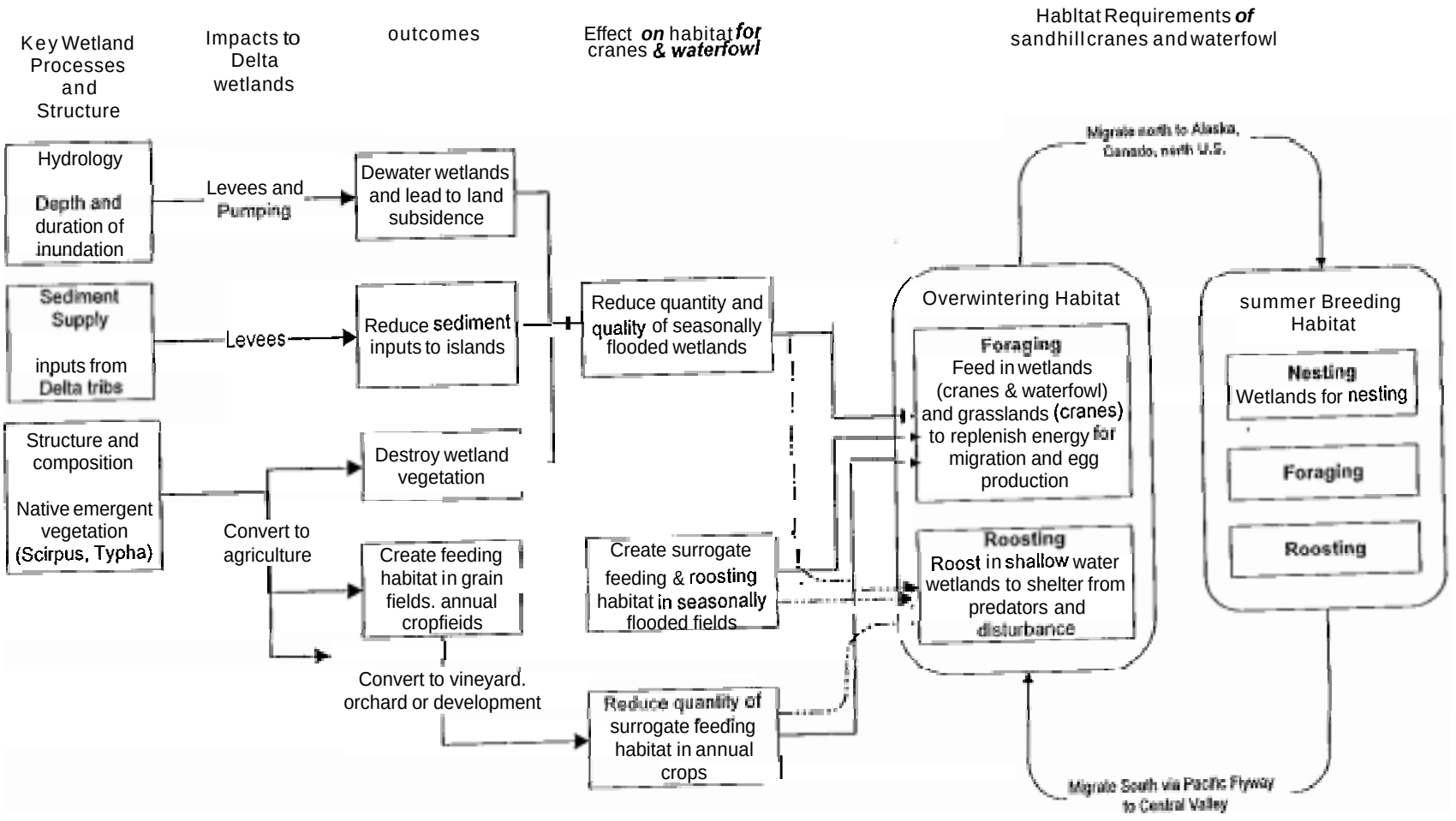
1) Wetlands Habitat and Agricultural Practices

Understanding the habitat requirements of greater sandhill cranes and waterfowl and the key processes that support or impair suitable habitat is critical for designing an effective restoration project (Figure 1). The Delta's wetlands are a critical link in the life cycle of waterfowl on the Pacific Flyway and sandhill cranes. Historically, the wetlands and flooded fields provided winter foraging and roosting habitat for these migratory birds. But development of Delta islands disrupted the hydrological and sediment processes necessary to sustain the wetlands. Agricultural practices also destroyed wetlands habitat by replacing native vegetation with a variety of crops. In some cases, waterfowl and cranes have adapted to take advantage of grain crop fields and irrigated pasture (Littlefield and Ivey 2000). Depending on the hydrologic regime used to flood these lands (Fredrickson and Reid 1990, Fredrickson 1991) and the crop type, birds can use agricultural lands as surrogate wetland habitat for feeding and/or roosting.

Littlefield and Ivey (2000) reviewed the conservation status and habitat needs for greater sandhill cranes wintering in the Delta. The Central Valley population winters in the Central Valley and breeds in NE California, Oregon, Washington, and British Columbia. The Delta is one of the two most important wintering sites, and Staten Island is a major use area in the Delta for both roosting and feeding. The presence of secure roost sites is key to the use of an area by sandhill cranes. Cranes typically roost overnight in open shallow water areas of wetlands or flooded agricultural fields. During the day, they forage in grain fields, and loaf or occasionally feed in grasslands, pasture, alfalfa, and lake edges.

Waterbird surveys of the Cosumnes River Preserve were initiated by Ducks Unlimited in 1989 and have been conducted by Preserve staff and volunteers ever since (CRP survey data). The most abundant duck species to winter in this region are mallard and northern pintail; other common species include northern shoveler, American wigeon, and gadwall. Staten Island is recognized nationally as the most important wintering grounds in the Pacific Flyway for tundra swans and white-fronted geese (F. Reid, Ducks Unlimited, pers. comm.) Snow geese and Canada geese, however, are less abundant here than in the Sacramento Valley (Sacramento Valley National Wildlife Refuges survey data). Waterfowl use agricultural fields for foraging principally, as well as some roosting. The distribution of birds can be patchy as flocks track changing food availability. The pattern of night habitat use is unclear, although observations suggest that ducks will fly to fields at night to forage, possibly an adaptation avoid daytime hunting or disturbance (Jorde and Owen 1988).

Figure 1 - Conceptual Model of Agricultural Development and Populations of Sandhill Cranes and Waterfowl



2) Water Quality and Productivity

Flooding of agricultural fields typically occurs in fall, and the water is pumped off in winter, usually beginning in January and ending in March. The increased residence time of water on agricultural fields can result in changes in water quality. For example, water pumped from the fields could have different concentrations of carbon and nutrients compared to Delta channel water, due to decomposition of corn stubble, waste from wildlife, and/or nutrient cycling and food web dynamics in the managed wetlands. Carbon and nutrients introduced from managed wetlands may affect food-web productivity in the Delta as well as drinking water quality.

c. Hypotheses being tested

1) Wildlife-Friendly Agriculture

Our conceptual understanding of the life history needs of greater sandhill cranes and migratory waterfowl-leads us to hypothesize that maintaining and improving the quantity and quality of managed wetland habitat on agricultural lands will lead to increased survival and improved condition of the wintering birds. Birds in better condition should have improved survival during the spring migration to the northern breeding grounds and better reproductive success (LaGrange and Dinsmore 1988). We expect this will result in an increase in populations. Factors beyond the Delta, such as availability of breeding habitat or mortality from predation or disease, may also limit population growth. Protection of wintering habitat nevertheless is essential for the long-term survival of these species on the Pacific Flyway (Weller 1988).

The E W Strategic Plan identified several areas of scientific uncertainty for which more information is needed to achieve restoration goals. Beyond the riparian area, CALFED is seeking improved understanding of how agricultural practices can be enhanced or modified to improve ecological conditions and species health. While it is clear that much Delta farming can benefit wildlife, there are no large-scale operations dedicated to investigating optimum models for agricultural-wildlife compatibility. Staten Island provides an opportunity to refine wildlife-friendly agriculture practices, which will restore functional equivalents of wetlands habitat (EW Goal 4) and lead to recovery of at-risk native species such as greater sandhill crane (state listed threatened species) and northern pintail (federal species of concern) (EW Goal 1).

The proposed project will evaluate the effect of different management practices on habitat use by birds on Staten Island. Improvements to irrigation infrastructure will allow us to alter the flooding regime (depth and duration) in selected fields, such as retaining water on the southern fields for up to a month longer than is currently possible. Our hypotheses are that the number of sandhill cranes and waterfowl on Staten Island (1) is greater in flooded than non-flooded fields, and (2) will increase over time under the improved flooding regime.

2) Water Quality and Productivity

Uncertainty exists about how actions in the watershed affect Delta food-web productivity; CALFED recommends monitoring carbon exchange between restored shallow-water habitat and open water. Monitoring of carbon inputs is also a priority for the CALFED Water Quality Program Plan, which has identified organic carbon as a problem for drinking water (CALFED 1999b). Studies on Twitchell Island by the USGS and at DWR's MWQI SMARTS facility have failed to simulate the actual seasonally flooded wetland land use proposed by this project. Current CALFED E W funded studies on organic carbon are focused on tidally influenced

wetlands, and the qualitative aspects of nutrients and carbon. To date there has been little quantitative work done examining carbon and nutrient loading from in-situ seasonally flooded wetlands and agricultural fields. This project will further our understanding of water quality in the Delta (ERP Goal 6).

We hypothesize that (1) organic carbon and nutrient loads in water pumped onto agricultural fields in the fall will be different than loads in water discharged to the Delta in latter winter-spring, and (2) the flooding and management regime for the proposed wetlands will produce a discharge of carbon and nutrients significantly different in quality and quantity than from the current land use practices on Staten island, as well as on other Delta islands.

d. Adaptive Management

Based on the available literature and the experiences and lessons learned at the Cosumnes River Preserve, we believe a pilot/demonstration project is appropriate. Staten Island provides an excellent opportunity to support sandhill cranes and waterfowl and to further refine wildlife-friendly agricultural practices. Staten Island is already recognized as an important site in California for wintering waterfowl and is unsurpassed in the Delta as wintering habitat for greater and lesser sandhill cranes (Littlefield and Ivey 2000). The Island provides extraordinarily valuable feeding and roosting habitat due to its immense size (9,200 acres), compatible agricultural practices (1,500-2,500 acres in seasonally-flooded corn), and minimal disturbance (access is limited). There are few if any places in the Delta where the opportunity to have positive impacts on wintering waterfowl and sustainable agriculture exists at such a large scale.

The owners of the 9,200 acre Staten Island (M&T Staten Ranch) have agreed to cooperatively manage the island, and contribute to meeting the waterfowl objectives for the Cosumnes River Preserve through the management of their agricultural fields as seasonal wetlands (Collins and Paullin 1988). M&T Staten signed on as one of the land owning cooperators on the Preserve in 1999. The Preserve has a proven track record with wildlife-friendly agricultural practices, and is experienced in creating seasonal wetlands on its 1,000 acre organic rice operation and monitoring habitat use by wintering waterfowl and cranes. An underlying objective of our involvement with Staten Island is to make wildlife-friendly farming more economically viable, thereby reducing the threat of conversion to less suitable land uses.

Evaluating the effectiveness of our restoration actions, and adjusting our management practices accordingly, are integral to the approach at the Cosumnes River Preserve. The application of wetland habitat management practices to agricultural crops will require adaptive approaches to develop not only an economically efficient operation but also highly desirable habitat for target species such the threatened greater sandhill crane, northern pintail, and other waterfowl species. The Staten Island project would use the adaptive management approach to adjust and refine wetland habitat management, sustainable delta agriculture practices, and discharge of organic carbon. Results of monitoring programs examining habitat use by birds and water quality conditions will feed back into our management strategies, which can include adjustments in water inundation duration, water depths, use of seasonal and permanent wetlands on the Island, crop rotation, and trying new crops such as rice.

e. Educational objectives

The goal of the Cosumnes River Preserve's research, outreach, and public relations programs is to share the successes and lessons of this watershed-scale effort to protect and restore habitats. While the purpose of this particular project is not primarily educational, it will facilitate the continued development of agricultural techniques and approaches with wide spread applicability. This large-scale operation will have tremendous visibility with Delta farmers and local political leaders, thereby serving as educational outlets, demonstrating ways agricultural and ecosystem goals can be compatible.

The lessons learned will be disseminated through the Preserve partners, including BLM, Ducks Unlimited, The Nature Conservancy, CDF&G, DWR, State Lands Commission, and Sacramento County. The Central Valley Joint Habitat Venture is another venue for sharing results with other resource agencies including the Natural Resources Conservation Service, Bureau of Reclamation, California Waterfowl Association and U.S. FWS. Finally, information will be shared with the Cosumnes Science Consortium, a partnership between TNC and UC Davis, to encourage further research of the management and benefits of wildlife-friendly agriculture.

2. Proposed Scope of Work

a. Location and/or Geographic Boundaries of the Project

Staten Island is located in northern San Joaquin County, between the North and South Forks of the Mokelumne River. The project lies within the Sacramento-San Joaquin Delta Ecological Management Zone and the East Delta Ecological Management Unit (Figure 2).

b. Approach

The approach will be to enhance an existing farm irrigation infrastructure to create an ability to better manage and control water for greater sandhill crane and northern pintail habitat. The improved capability will allow managers to flood more acreage for longer duration and have greater diversity of flooded habitat than currently exists. The project will require the construction of five miles of interior cross levee (3 to 4 feet in height), the construction of one discharge pump station and the installation of one high capacity water control structure to improve water level management capability on the entire Island. The cross levees will create ten large management units (Figure 3) where water levels will be independently controlled. This control will allow for the management of water levels from zero to eighteen inches in most fields. On these large units a tremendous diversity of foraging and roosting habitat can be manipulated to maximize the benefits for target species. The proposed discharge pump and one cross levee will effectively split the Island into two separate water management units, with approximately 3200 acres on the south and 6000 acres on the north. The north and south units can drained independently form one another and in a shorter time period due to the increased pump discharge capacity. This will allow for longer flood duration of up to 45 days during the critical use period of February 1 to March 15.

The project would measure the effectiveness of improvements by the amount of flooded habitat inundated, the quality of habitat relative to the target species and the diversity of habitat. The management actions would be monitored to determine the effect on waterfowl use patterns and on amounts of dissolved carbon in water discharged from the system. With the construction of **a**

Figure-2

Staten Island Wildlife Friendly Farming

Project Location Map

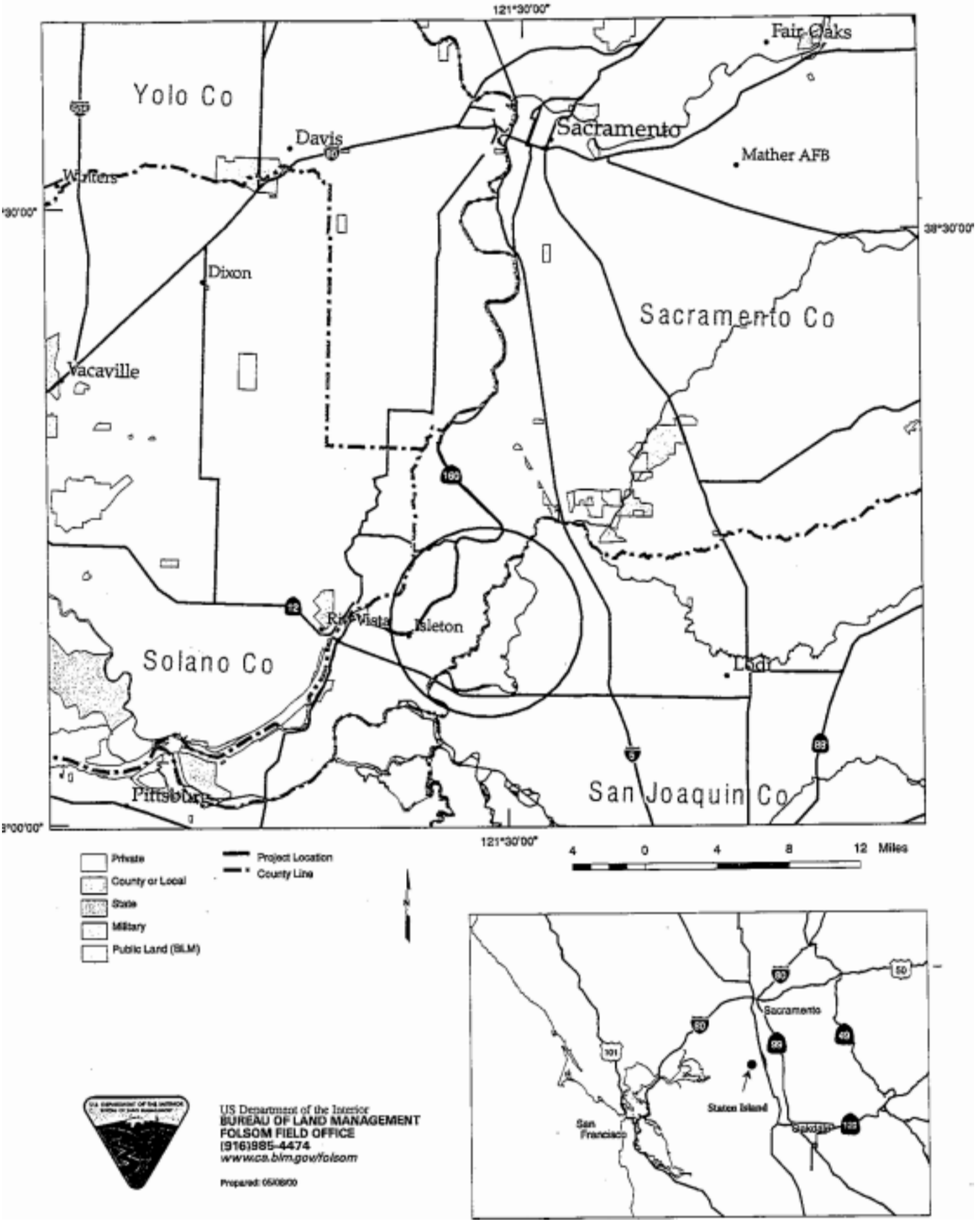
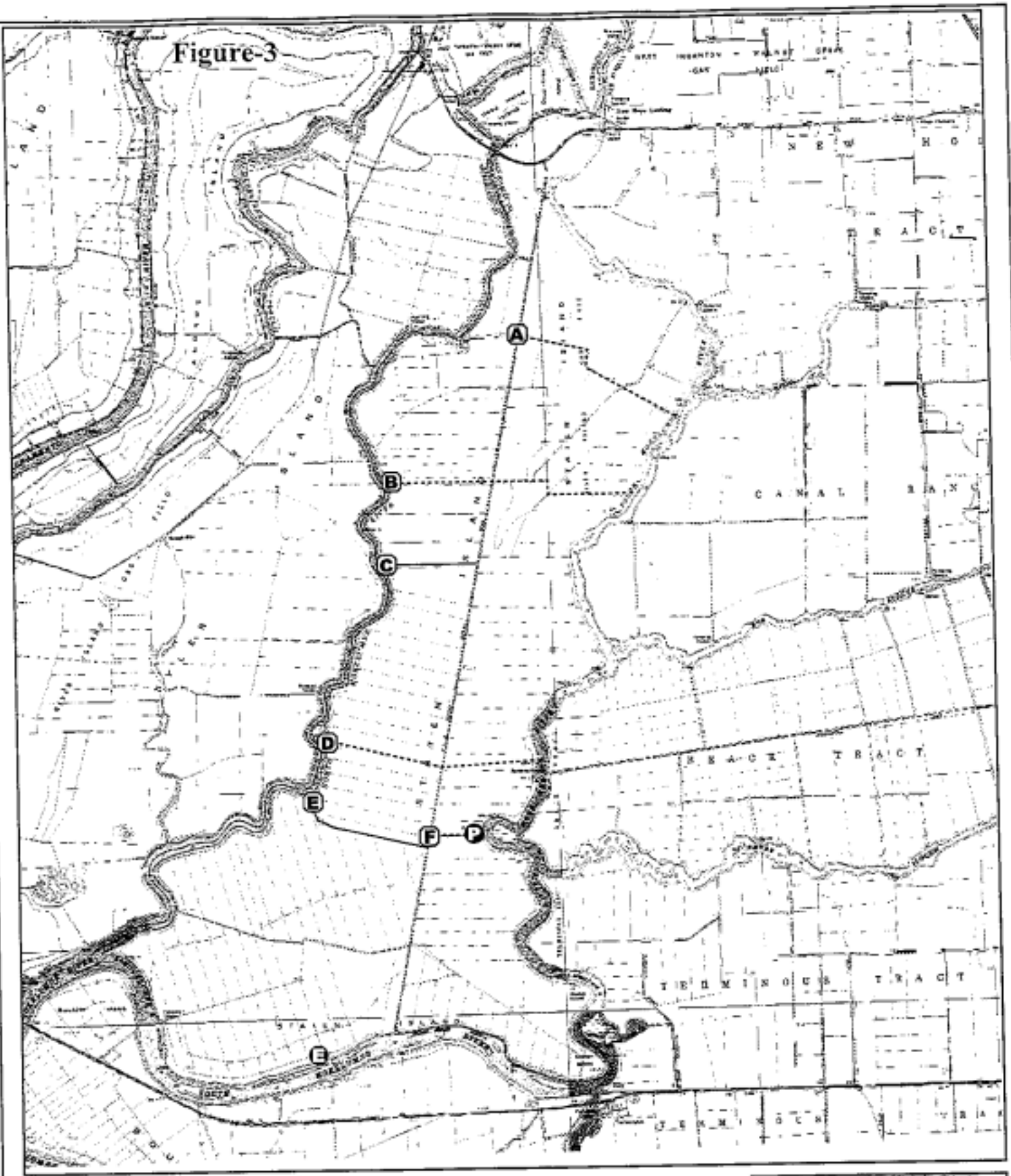


Figure-3



P Propsed pump station
E Existing pump station
Proposed levee
Existing levee

2000 0 2000 4000 Feet

Staten Island Wildlife Friendly Farming
Project Site Map

US Department of the Interior
Bureau of Land Management
Folsom Field Office
(916)985-4474
www.ca.blm.gov/folsom

Prepared: 05/03/00

Levee	Length (ft.)	Status
A	7930	Proposed
B	10856	Proposed
C	3845	Existing
D	8858	Proposed
E	5833	Existing
F	2602	Proposed

new discharge pump station the Island would have two discharge points to monitor water quality. This will create the opportunity to conduct a comparative analysis of discharge water between different crops, flooding depths and duration.

Task 1: Cross levee construction

Five (5) miles of low cross levees would be constructed on the island to improve water management on the island. This will improve the M&T Staten Ranch's ability to irrigate crops, control weeds and create a diversity of winter habitat for waterfowl for a longer period of time in the winter with reduced cost. There are four segments of levee to be improved or constructed to accomplish this objective. These segments **(A,** B, D, and F) are illustrated on Figure 3 and will require approximately 60,000 cubic yards of fill material and 4000 cubic yards of road base material to achieve the desired levee elevations. Subtasks include (1) Final survey and design of cross levees, (2) Contracting, construction, and construction management.

Task 2: Discharee Pump Construction

One high capacity pump station and control structure will be constructed at the site indicated on Map 2. This station will improve the water management of the Island by splitting it into two water management units. Each management unit would have an independent capability to manage water levels. The north unit would be approximately 6000 acres and the south unit would be 3200 acres. The project would consist of constructing a metal pump station platform, installing four pumps with motors capable of pumping at 100 hp each, extending 2000 feet of ditch to the pump station and installing a large gate valve to separate the two management units. This includes pump stand fabrication and installation, motor and pump construction and installation, and all electrical wiring, installation and hook up. Subtasks include (1) Final survey and design of pump station, and (2) contract, construction, and construction management.

Task 3: Mapping

The subtasks to compile all relevant existing data on Staten Island into a single GIS relational database include (1) assemble and review available information, (2) create digital map layers (1:24,000) including base map, topography, soils, infrastructure, and habitat, and ***(3)*** input data into GIS system.

Task 4: Monitoring/Monitoring Plan

Monitoring will consist of two components: 1) waterfowl and habitat monitoring conducted by BLM Cosumnes River Preserve staff, in cooperation with Ducks Unlimited and, 2) water quality monitoring conducted by DWR Municipal Water Quality Investigations Program (MWQI), which is interested in the effects of island discharge on Delta carbon loading. Both monitoring programs will design final monitoring plan, conduct annual monitoring from September to March, assess monitoring data annually, and prepare a monitoring report.

Task 5: Proiect management

Project management will include preparing cooperative agreements, providing project oversight, inspection, submitting quarterly reports to CALFED, providing annual presentations on project status, preparing final report, and providing ongoing liaison with CALFED and local stakeholders.

c. Monitoring and Assessment Plans

1) Wildlife-Friendly Agriculture

BLM will monitor the number and diversity of bird species utilizing seasonally flooded agricultural lands during the prolonged flood period created by this project. Surveys will be conducted twice monthly during the flooding season when birds are expected to be using the fields (September-March). Counts will be made of each management unit during the day (to document daytime foraging) and night (to document crane roosting and waterfowl roosting and feeding). Night vision equipment will be used for night surveys. A complete count of greater sandhill cranes and northern pintail will be attempted, and other species and subspecies will be counted (i.e. other ducks, other cranes, unknown cranes, shorebirds, etc.). Crop type and water depths of each surveyed field will be recorded.

This survey will be conducted in the winter before construction to obtain baseline data, and will be repeated annually for three more years to examine the effects of the new flooding regime. We will also compare Staten Island data with results from other areas of the Preserve that may be monitored, such as the rice fields and managed wetland ponds.

2) Water Quality

DWR MWQI Program will conduct water quality monitoring of the intake water, water within the managed field units, and water discharged from the pump stations to the Mokelumne River. Water quantity measurements will be taken initially at the existing pump station the first year along with water quality measurements to establish a baseline-loading estimate. Water quantity and quality measurements will be taken at the old and new pump stations during the second year. A third year of measurements will be taken 3-5 years after pump installation.

Sampling will occur September through March. Dissolved oxygen, pH, temperature, electrical conductivity, and turbidity will be taken as field measurements. Total and dissolved organic carbon, UVA 254, nitrogen, phosphorus, and total dissolved solids analyses will be conducted at the DWR Bryte lab facility in West Sacramento.

The quality of intake water from the Mokelumne will be measured weekly. Twelve grab samples will be taken monthly from the same flooded field units that are surveyed for waterfowl and crane use. At the pumps, refrigerated auto-samplers will collect discharge samples daily, and the samples will be processed weekly. Adaptive management of the water quality sampling will allow adjustment of frequency of analyses based on the rate of change of quality. Initially, daily samples from the discharge will be run. If the rate of change is high, a real-time carbon analyzer may be used in place of the auto-samplers for year two.

Discharge volume will be measured by impeller-type continuous flow meters installed on each of the four discharge pipes located at the existing and new pump stations. These will be read weekly. Additional records of pump operation will be kept in coordination with the island managers to more accurately relate flow to quality to develop loading estimates.

d. Data Handling and Storage

All waterfowl monitoring data would be collected, handled, and stored by DU and the Cosumnes River Preserve Wetlands Manager (BLM). **All** water quality data would be collected, handled

and stored by DWR. The Cosumnes River Preserve (BLM) will maintain the comprehensive data base and will provide documents upon request and as appropriate.

e. Expected Products and Outcomes

The improved infrastructure will be a product of the proposal. The beneficial outcome of this product will be increased duration (30-45 days) of flooded habitat, increased diversity of habitat, and an increase in quantity of habitat. Findings from the bird and water quality monitoring efforts will be summarized in a written report.

f. Work Schedule

The work schedule is summarized in Figure 4. The project milestones will consist of establishing baseline data in 2000-2001, design and construction of new infrastructure in 2001, and the completion of three year post-project monitoring schedule in spring 2004. Waterfowl use and habitat monitoring would be conducted each year. Water quality would be measured 2000-2001 (baseline), 2001-2002 and one additional time between 2002-2004 to correspond with any adaptive management change to the management of the Island. Each of the tasks 1 – 4 could be separated and phased in at different times if necessary. The monitoring schedule and design would have to be adjusted if the pump station was not constructed in the first year. The water quality monitoring component is separable from the project in whole or in part (e.g. grab samples from flooded fields). The third year of water quality monitoring could be postponed indefinitely based the information found in the first two years sampling.

g. Feasibility

The Bureau of Land Management's role on the Preserve for the last five years has been to facilitate site management, restoration and wildlife-friendly farming practices for the Preserve partners. The BLM has the capability through the use of cooperative agreements to actively participate with private landowners, non-profits and other government agencies on projects, which will benefit public land management. This project provides long term benefits for the BLM's Cosumnes River Preserve effort. The BLM and M&T Staten Ranch (private landowner) entered into a five-year agreement in July 1998 to implement the project described. This agreement provides the necessary authorization for access to private lands.

The proposed project will be carried out entirely on private property, which is under active cultivation for agriculture. The construction of the pump station platform, installation of water control structures and construction of cross levels will be completed on lands which have been heavily modified as a result of reclamation efforts in the Delta. No significant impacts to the environment are expected as a result of the project. The project will require normal permitting and inspection process associated with improvements to agricultural property. BLM will complete the appropriate NEPA process and review for each component of the project. Because the monitoring does not include any direct action, the actions are categorically excluded under NEPA.

Figure 4 -Work Schedule 2000-2002

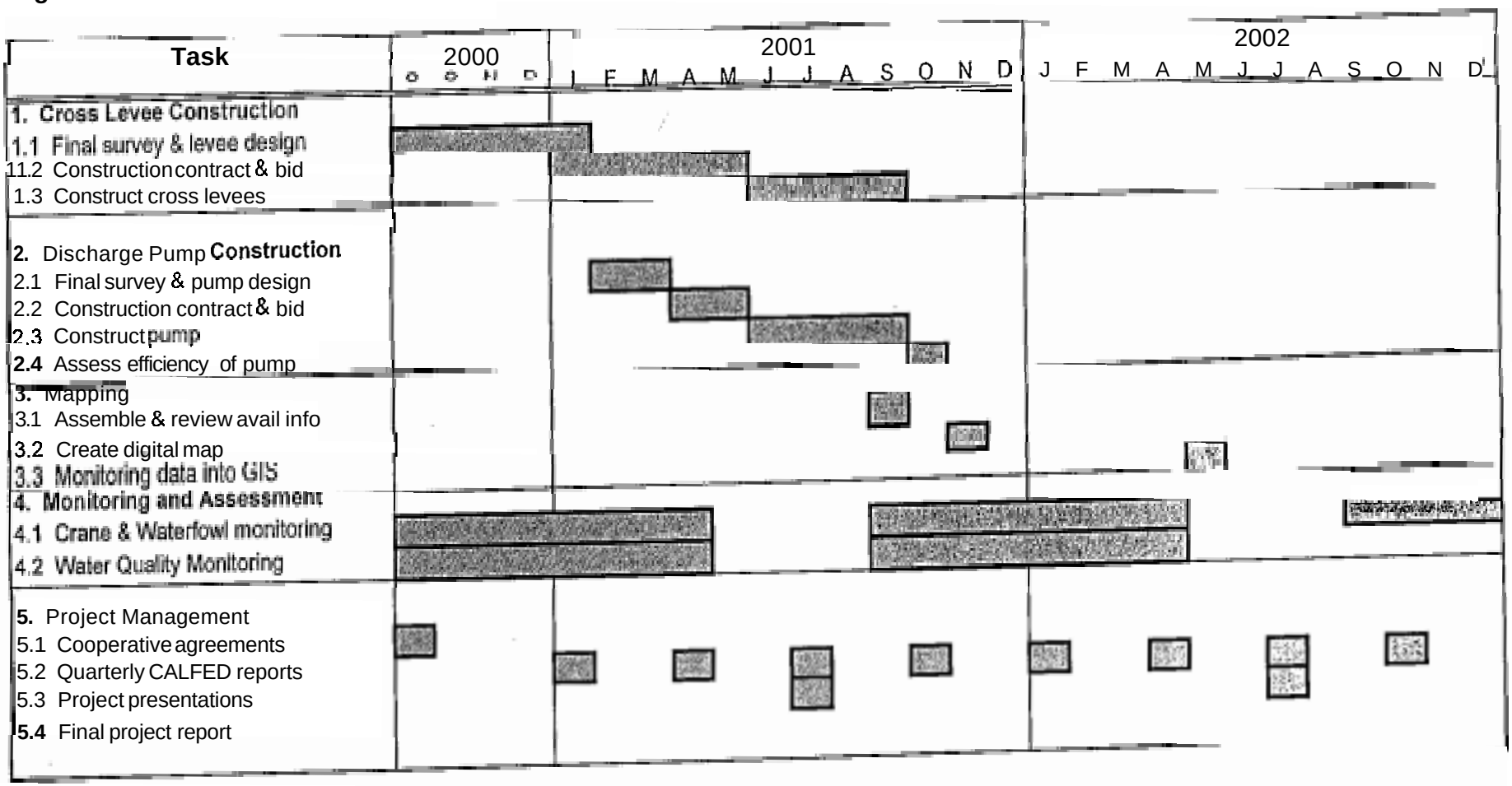
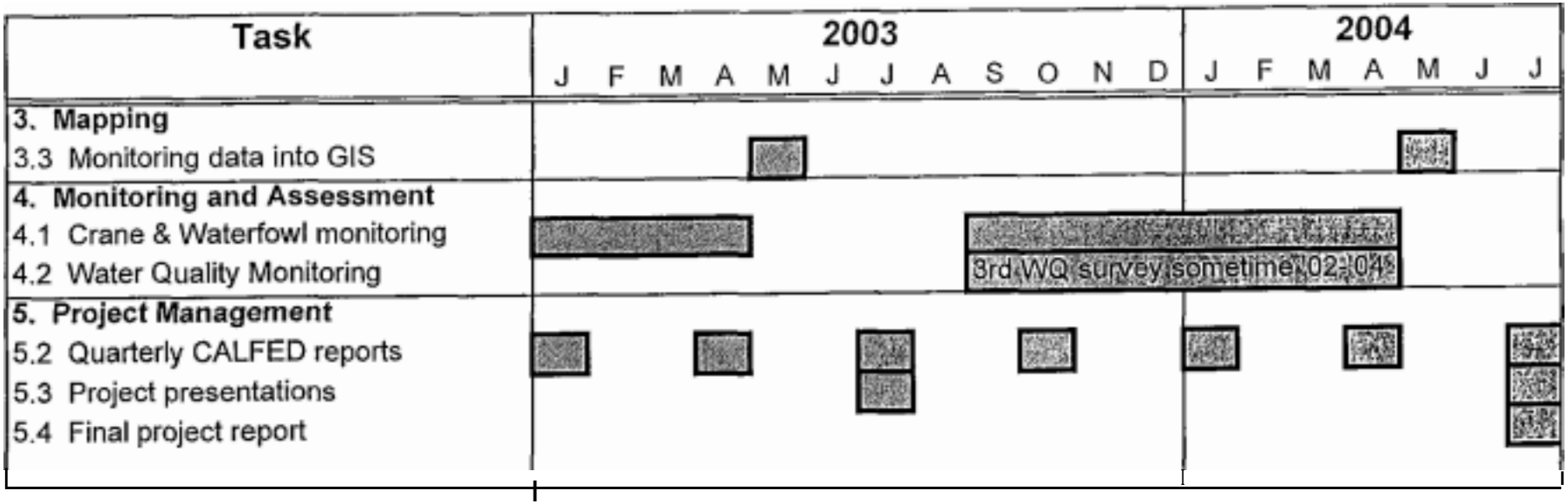


Figure 4 (continued) - Work Schedule 2003-2004



D. Applicability to CALFED ERP Goals and Implementation Plan and CVPIA Priorities

ERP Goals and CVPIA Priorities

The ecological and biological goals of the project are to:

- ***Facilitate the recovery of the greater sandhill crane (ERP Goal 1).***
- ***Increase the diversity of habitat in the East Delta andprovide connectivity to Woodbridge Ecological Preserve and Stone Lakes NWF Refuge (ERP Goal 4).***
- ***Evaluate the effects of water management and waterfowl use on carbon and nutrient levels in water discharged to the Delta (ERP Goal 6)***

The E W Strategic Plan identified several areas of scientific uncertainty for which more information is needed to achieve restoration goals. Beyond the riparian area, CALFED is seeking improved understanding of how agricultural practices can be enhanced or modified to improve ecological conditions and species health. While it is clear that much Delta farming Can benefit wildlife, there are no large-scale operations dedicated to investigating optimum models for agricultural-wildlife compatibility. This project provides an opportunity to refine wildlife-friendly agriculture practices, which will restore functional equivalents of wetlands habitat (E W Goal 4) and lead to recovery of at-risk native species such as greater sandhill crane (state listed threatened species) and northern pintail (federal species of concern) (ERP Goal 1).

Uncertainty exists about how actions in the watershed affect Delta food-web productivity; CALFED recommends monitoring carbon exchange between restored shallow-water and open water. Monitoring of carbon inputs is also a priority for the CALFED Water Quality Program Plan, which has identified organic carbon as a problem fur drinking water (CALFED 1999b). Studies on Twitchell Island by the USGS and at DWR's MWQI SMARTS facility have failed to simulate the actual seasonally flooded wetland land use proposed by this project. Current CALFED ERP funded studies on organic carbon are focused on tidally influenced wetlands, and the qualitative aspects of nutrients and carbon. To date there has been little quantitative work done examining carbon and nutrient loading from in-situ seasonally flooded wetlands and agricultural fields. This project will further our understanding of water quality in the Delta (E W Goal ***6)***.

This project will help achieve a number of strategic objectives regarding restoration or enhancement of CALFED priority species. Species addressed include ***greater sandhill cranes, waterfowl, shorebirds,*** and ***wading birds*** (CALFED 1999a).

Relationship to Other Ecosystem Restoration Projects

This proposal is an addition to the Cosumnes River Preserve's existing effort in wildlife-friendly farming and wetlands restoration effort. The project assists in achieving goals established by the Central Valley Habitat Joint Venture for this area of the Delta. The proximity of the Staten Island

project to Woodbridge Ecological Preserve, the Stone Lakes National Wildlife Refuge, and the Cosumnes River Preserve wetlands and farmland complex provides links of habitat which effectively create the "East Delta Habitat Corridor" envisioned in the ERPP. The preservation of agricultural land and continued agricultural use of the property will maintain an important economic unit for the local community.

Requests for Next-Phase Funding

None

Previous Recipients of CALFED or CVPIA funding

The Bureau of Land Management's Redding Field Office received CALFED funding for site assessment work and for easement acquisition along the Sacramento River in 1998. *Riparian Corridor Acquisition and Restoration Assessment, #99-B12.* The project status is still current.

System-Wide Ecosystem Benefits

The Staten Island Wildlife-Friendly Farm project complements the upstream conservation efforts of the Cosumnes River Project, the Woodbridge Ecological Preserve, and the Stone Lake National Wildlife Refuge, particularly in regard to the physical linking of patches of both terrestrial and aquatic habitat. Farmlands benefit the area by ensuring that disruptive activities and land uses will not occur in the vicinity of the existing and restored habitat lands, and by adapting the row and field crop agriculture to provide important surrogate habitat and food for native species, particularly migratory birds. Most importantly, the completion of this project will build upon wildlife-compatible farming efforts demonstrated elsewhere in the Cosumnes River Project area.

E. Qualifications

The Bureau **of** Land Management is responsible for the management of 270,000,000 acres of public land in the eleven western states. In California the BLM administers and directs management on over 14,000,000 acres. The BLM, Folsom Field Office administers lands along the Yuba, American, Cosumnes, Mokelumne, Stanislaus, Toulumne, and Merced rivers. The BLM has skills and the experience to work with federal, state, and county governments, local agencies, private landowners, and environmental interest groups on multiple issues related to water quality, agriculture, wildlife habitat development, recreation, water rights and hydropower. For the last five years the BLM has coordinated all site management for the Cosumnes River Preserve. During this time the Preserve has grown eight-fold to 40,000 acres, added three land owning partners to the partnership, and successfully implemented a wildlife-friendly farm program on the Preserve. The BLM was instrumental in the completion a non-levee flood control project on the Preserve. This project was cooperative effort between private landowners, the Army Corp of Engineers, Sacramento County and the BLM, which successfully returned 1,300 acres to the Cosumnes River floodplain.

- Rick Cooper has worked in natural resource management for 22 years with the Bureau of Land Management. He graduated from California State University Humboldt with a B.S. degree in Range Management in 1978. Mr. Cooper became the Preserve Manager of the Cosumnes River Preserve in 1995. Mr. Cooper has successfully led an interdisciplinary staff of Nature Conservancy and BLM employees in achieving habitat management objectives for the Preserve. He has been effective working with local ranchers and farmers to integrate and implement wildlife-friendly agriculture on Preserve lands and has created an effective mechanism for the coordinated management of lands with nine different land owning partners.

Ducks Unlimited is the nationally recognized authority on the restoration and enhancement of wetlands. Since 1937, DU has raised over $1 billion for restoration and enhancement of over 1 million acres of wetlands in North America. Qualified biologists and engineers on staff at DU's Western Regional Office (3074 Gold Canal Road, Rancho Cordova, California) are skilled in restoration activities such as cut and fill excavation, selection and installation of water control structures, and design and installation of pump stations. DU is skilled in construction management and is able to design the project, provide bid packages to potential contractors, and ensure the project is completed to specifications. DU is very familiar with government contracting procedures.

- Mr. James R. **Well** brings an engineering and construction background to Ducks Unlimited, Inc. (DU). Educated at North Dakota State University (B.S. Civil Engineering), he has spent a career working in design, construction, and construction management of civil works in twelve central and western states. Mr. Well is currently employed by DU as a lead Regional Engineer for the state of California. Mr. Well supervises three other engineers and manages the habitat restoration activities in California. Mr. Well can be reached at Ducks Unlimited,

Inc.'s Western Regional Office, 3074 Gold Canal Drive, Rancho Cordova, CA 95670 @hone (916) 852-2000, fax (916) 852-2200, email jwell@ducks.org).

- Peter E. Schmidt is the project biologist assigned to the Cosumnes River Preserve. Mr. Schmidt has a Master's degree in natural resources/wildlife management, Humboldt State University, 1999. Mr. Schmidt oversees project development for Duck Unlimited's Valley/Bay CARE program in the Sacramento Valley, Suisun Marsh, and the Sacramento/San Joaquin delta. He administers programs with budgets in excess of $1 million. He is responsible for coordinating the engineering and design, project delivery and inspection, and budget tracking for all private land projects within this area. In addition, Mr. Schmidt works extensively with many different agencies and groups on cooperative wetland restoration and enhancement projects. He works also with the agricultural community to enhance properties for wildlife benefits.

M&T Staten Ranch-is owned and operated by PacTrust Realty Company of Portland, Oregon. PacTrust has a history of working with resource agencies to benefit wildlife. Their M&T Chico Ranch was instrumental in solving pump diversion problems along Butte Creek. The pump station project completed on the M&T Chico Ranch was a key factor in the improved salmon run on Butte Creek.

- Jim Shanks is the farm manager for M&T Staten Ranch. He has worked for M&T for 46 years and is from a family of farmers who grow rice in Sacramento Valley. Jim has a wealth of practical knowledge in applying water management practices on farmlands to benefit waterfowl. Jim grew up in the heart of the Pacific Flyway in a community where wildlife, refuges and farms co-existed as neighbors.

Department **of** Water Resources- The Municipal Water Quality Investigations Program (MWQI) is found within the Water Quality Assessment Branch, in the Division of Planning and Local Assistance, California Department of Water Resources. The MWQI Program is overseen by a committee of the urban State Water Contractors and other technical experts in the field of drinking water quality. The Program has been conducting monitoring and research on source water quality in the Delta since 1982. The MWQI Program has generated the largest data set of Delta drinking water quality monitoring in existence. Approximately 12 staff members with expertise in water quality, toxicology, waste and drinking water treatment, agriculture, and technical support are drawn upon to conduct studies. 3 of these 12 people are dedicated field group members and work out of the Bryte facility. They have 2 mobile labs at their disposal, as well as equipment storage and sample processing capabilities.

Bryte Lab is also part of the Water Quality Assessment Branch. The lab is a fully certified ELAP lab by the Department Of Health Services. The lab uses the FLIMS (Field Lab Information Management System) to track samples and QA/QC information. Analytical results, along with QA information, are transferred to a relational database within the Branch to be accessed by project leaders.

F. *Cost*

Totalproject costs are $1,853,224.00

1. Budget *(CALFEDRequest is $1,314,310.00)*

All CALFED request funds are depicted by year in Table 1.

Direct salary and benefits of $66,693.00 are calculated for developing GIS database (task 3), waterfowl monitoring (subtask 4.1), and project management (task 5) described in the scope of work. The BLM staff includes the Cosumnes River Preserve Manager, the Wetlands Manager, two seasonal field biologists and one GIS technician specialist.

Service Contracts of $1,204,153.00 for the costs associated with infrastructure construction (subtasks 1.1, 1.2, 2.1, and 2.2) and water quality monitoring (subtask 4.2) will be in the form of a task order agreement with Ducks Unlimited and a cooperative agreement with the Department of Water Resources, respectively.

The completion of survey and design, contract preparation, construction, and contract management for the cross levee construction and the pump station construction will be assigned to Ducks Unlimited, Inc. through task order agreement with BLM. DU and BLM have utilized the national Memorandum of Understanding between the Department of Interior and DU on wetland projects on the Cosumnes River Preserve. BLM/DU task order agreements have been used on the project to implement NFWF grant projects and an interagency fund transfer between BLM and the Army Corp of Engineers. The use of task orders with DU has proven to be efficient and cost effective.

The completion of water quality monitoring plans, installing flow meters, sampling (river, pump discharge), lab analysis, data processing and final write up will assigned to the Department of Water Resources, Municipal Water Quality Investigation Programs. Although shown as a service contract in the proposal, this task could be carried out by direct funding to MWQI upon completion of a BLM/DWR cooperative agreement for the project.

Overhead costs of $25,210.00 included in this proposal are 18.9% of total direct labor costs to BLM. BLM did not place any labor or overhead costs on service contact administration.

Reporting by BLM will be done at a task level basis. For invoices, BLM will invoice at the task level.

Table **1.** Annual and total budget for Staten Island Wildlife-Friendly Farming Demonstration

Year	Task	Direct Labor Hours	Subject to Overhead						Exempt from Overhead		
			Salary	Benefits	Travel	Supplies & Expendables	Service Contracts	Overhead (18.9%)	Equipment	Grad Student Fee	Total Cost
Year1	Task 1.1						$32,410	$0			$32,410
2000-200	Task 1.2						$294,978	$0			$294,978
	Task 2.1						$29,385	$0			$29,385
	Task 2.2						$536,550	$0			$536,550
	Task3	80	$3,151					$596			$3,747
	Task 4.1	832	$14,224			$300		$2,745	$3,000		$20,269
	Task 4.2						$70,534	$0			$70,534
	Project Management	80	$4,856				$13,040	$918			$18,814
Total Cost Year 1			$22,231	$0	$0	$300	$976,897	$4,258	$3,000	$0	$1,006,686
Year 2	Task 3	80	$3,151					$596			$3,747
2001-200	Task 4.1	832	$14,224			$300		$2,745			$17,269
	Task 4.2						$117,228	$0			$117,228
	Project Management	80	$4,856					$918			$5,774
Total Cost Year 2			$22,231	$0	$0	$300	$117,228	$4,258	$0	$0	$144,017
Year 3	Task 3	80	$3,151					$596			$3,747
2002-200	Task 4.1	832	$14,224			$300		$2,745			$17,269
	Task 4.2							$0			$0
	Project Management	80	$4,856					$918			$5,774
Total Cost Year 3			$22,231	$0	$0	$300	$0	$4,258	$0	$0	$26,789
Year 4	Task 3	80	$3,151					$596			$3,747
2003-200	Task 4.1	832	$14,224			$300		$2,745			$17,269
	Task 4.2						$110,028	$0			$110,028
	Project Management	80	$4,856					$918			$5,774
Total Cost Year 4			$22,231	$0	$0	$300	$110,028	$4,258	$0	$0	$136,817
Total Project Cost			$66,693	$0	$0	$1,200	$1,204,153	$25,550	$3,000	$0	**$1,314,310**

2. Cost-Sharing *(Cost Share Contribution $538,914.00)*

This project includes an excellent cost share component. M&T Staten Ranch (owner) and DWR-MWQI are making significant contributions to the project. M&T Staten Ranch will cost share by contributing all winter habitat management (flooding), a diesel motor and pump to the pump station, the construction of 8,858 feet of 4 foot high cross levee, and 60,000 cubic yards of fill material. DWR-MWQI contributes a mobile lab with fuel and supplies and two refrigerated auto-sampler and bottles.

M&T Staten Ranch Cost Share
($471,364.00)

Component	cost
Management and Labor	$10,080.00
Construction 8858 foot levee	$364,284.00
Diesel pump and motor	$41,000.00
Fill	$56,000.00

DWR-MWQI
($67,550.00)

Component	cost
Mobile Lab – fuel, supplies, reagents, meters	$32,550.00
Two refrigerated auto samplers	$35,000.00

G. Local Involvement

The San Joaquin County Board of Supervisors, the Administrative Officer, Planning Director, and Water Resources Director and the Delta Protection Commission have received notice of this proposal (letters attached). Because of the potential benefit to Sacramento County of activities enabled by the proposed activities, we have also notified the Sacramento County counterparts.

The CALFED North Delta Improvements Group and the Mokelumne-Cosumnes Watershed Alliance (MCWA) will be important forums for ensuring local and interagency involvement in the activities made possible by this grant. The proposed acquisition will not preclude any of the alternatives that the North Delta Improvements Group are considering. Members of these groups have been informed of this proposal, and will be consulted and engaged as we move toward implementation of the activities proposed. Together, the North Delta Group and MCWA include all of the relevant Resource Conservation Districts, Reclamation Districts, and other major stakeholders. Through their regular meetings, we will ensure close coordination of this program with their plans and objectives.

In addition, the Cosumnes River Preserve carries out a regular program of outreach to decision-makers and community groups in the greater Sacramento region. Activities in this program include periodic presentations to or participation with the Galt Chamber of Commerce, the North Delta Conservancy, service clubs, historical societies, and other groups. These presentations serve to keep key constituencies informed of Preserve activities and to provide the vehicle for further involvement by those who seek it.

Finally, the Preserve has a web page (www.cosumnes.org) with background information, maps, and descriptions of current programs.

H. Compliance with Standard Terms and Conditions

The Bureau of Land Management will be able to comply with standard terms and conditions contained in attachments D and E of the 2001 proposal solicitation package.

I. Literature Cited

CALFED. 1999a. Ecosystem Restoration Program Plan Volume II. June 1999.

CALFED. 1999b. Water Quality Program Plan. June 1999.

Collins, E. and D. G. Paullin. 1992. Wetland and waterfowl management recommendations for M&T Staten Ranch, Staten Island, Walnut Grove, California. Management plan prepared by Ducks Unlimited and U.S. Fish and Wildlife Service as part of the Central Valley Habitat Joint Venture, North American Waterfowl Management Plan. 12 pp.

Elphick, C. S. and L. W. Oring. Winter management of Californian rice fields for waterbirds. J. of Applied Ecology. 35: 95-108.

Elphick, C. S. 2000. Functional equivalency between rice fields and seminatural wetlands habitats. Conservation Biology. 14(1) 181-191.

Fredrickson, L. H. 1991. Strategies for water level manipulations in moist-soil systems. U S. Fish and Wildlife Service. Fish and Wildlife Leaflet 13.4.6, Waterfowl Management Handbook. 8 pp.

Fredrickson, L. H. and F. A. Reid. 1990. Impacts of hydrologic alteration on management of freshwater wetlands. Pp. 71-90. In: J. M. Sweeney (Ed.) Management of dynamic ecosystems. North Central Section, The Wildlife Society, West Lafayette, Indiana.

Jorde, D. G. and R. B. Owen, Jr. 1988. The need for nocturnal activity and energy budgets of waterfowl. Pp. 169-180. In: Weller, M.W. (Ed.) Waterfowl in winter. University of Minnesota Press, Minneapolis. 624 pp.

LaGrange, T. G. and J. J. Dinsmore. 1988. Nutrient reserve dynamics of female mallards during spring migration through Central Iowa. Pp. 287-297. In: Weller, M.W. (Ed.) Waterfowl in winter. University of Minnesota Press, Minneapolis. 624 pp.

Littlefield, C. D. and *G*. L. Ivey. 2000. Conservation assessment for greater sandhill cranes wintering on the Cosumnes River floodplain and Delta regions of California. February 2000. Report prepared for The Nature Conservancy, Cosumnes River Preserve. 27 pp

Weller, M.W. Ed. 1988. Waterfowl in winter. University of Minnesota Press, Minneapolis. 624 pp.

J. Threshold Requirements

Notification Letters
- San Joaquin County
- Sacramento County
- Delta Protection

Cooperative Agreement between BLM and M&T Staten Ranch

Land use check list

Environmental compliance checklist

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Folsom Field Office
63 Natorna Street
Folsom, California 95630
www.ca.blm.gov/folsom

May 12,2000

Planning Department
San Joaquin County
222 E Weber Ave #701
Stockton CA 95202

Re: Staten Island Wildlife Friendly Farming; CALFED Proposal May 15,2000.

The Bureau of Land Management is submitting a project proposal to CALFED for the Cosumnes River Preserve. The project is located on the Cosumnes River Preserve's Staten Island unit. The project will improve existing management efforts on the Island for thousands of wintering waterfowl using the flooded farmlands.

The project proposes the construction of low cross levees on the Island as well one high volume discharge pump station. The combination of the two improvements will allow managers on Staten to increase the number of acres flooded, increase the duration of flood up and increase the diversity of habitat during the winter. The project will conduct monitoring on waterfowl use on the Island and on water quality being discharged from the Island.

I think this is an outstanding project providing another demonstration in the use of compatible forms of agriculture for critical wildlife habitat in the Central Valley and Delta.

If you have questions regarding this proposal please contact me at 916.683.1701 or email rcooper@cosumnes.org.

Sincerely,

Rick Cooper

Rick Cooper
Preserve Manager

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Folsom Field Office
63 Natoma Street
Folsom, California 95630
www.ca.blm.gov/folsom

May 12,2000

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222 E Weber Ave #701
Stockton CA 95202

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Folsom Field Office
63 Natoma Street
Folsom, California 95630
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May 12,2000

Delta Protection Commission
14215 River Road
P.O. Box 530
Walnut Grove, California 95690

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May 12,2000

Planning Department
County of Sacramento
700 H Street
Sacramento CA 95814

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BUREAU OF LAND MANAGEMENT
Folsom Field Office
63 Natoma Street
Folsom. California 95630
www.ca.blm.gov/folsom

May 12,2000

Don Nottoli
Sacramento County Board of Supervisors
700 H St #2450
Sacramento CA 95814

Re: Staten Island Wildlife Friendly Farming; CALFED Proposal May 15,2000.

Dear Supervisor Nottoli:

The Bureau of Land Management is submitting a project proposal to CALFED for the Cosumnes River Preserve. The project is located on the Cosumnes River Preserve's Staten Island unit. The project will improve existing management efforts on the Island for thousands of wintering waterfowl using the flooded farmlands.

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
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63 Natoma Street
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May 12,2000

Administrative Officer
San Joaquin County
222 E Weber Ave #701
Stockton CA 95202

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United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Folsom Field Office
63 Natoma Street
Folsom, California 95630
www.ca.blm.gov/folsom

May 12,2000

Jack Sieglock
San Joaquin County Board of Supervisors
222 E Weber Ave #701
Stockton CA 95202

Re: Staten Island Wildlife Friendly Farming; CALFED Proposal May 15,2000

Dear Supervisor Sieglock:

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Sincerely,

Rick Cooper

Rick Cooper
Preserve Manager

Environmental Compliance **Checklist**

All applicants must fill out this Environmental Compliance Checklist. Applications must contain answers to the following **questions** to be responsive and to be considered for funding. ***Failure to answer these auestions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. Do any of the actions included in the proposal require compliance with either the California Environmental Quality Act (CEQA), the National Environmental Policy Act (NEPA), or both?

X
YES **NO**

2. If **you** answered **yes to # 1,** identify the lead governmental agency for CEQA/NEPA compliance.

BLM
Lead Agency

3. If you answered no to **# 1,** explain why CEQA/NEPA compliance **is** not **required** for the aetions in the proposal.

4. If **CEQA/NEPA** compliance is required, describe **how** the project will comply with either or both of these laws. Describe **where** the project is **in** the compliance process and the expected date of completion.

BLM will prepare Environmental Assessment for the construction project. The project site is located on existing roads & at an existing pump station site. County permitting will be required. This process will start at the survey and design phase of project.

5. **Will** the applicant require access across public or private property that the applicant does not **own** to accomplish the activities in the proposal?

X
YES See attached cooperative agreement July 15, 1998 **NO**

If yes, the applicant **must** attach **written** permission **for** access from the relevant property owner(s). Failure to include written permission for **access** may result in disqualification **of** the proposal during the **review** process. Research and monitoring field projects for which specific field locations have not been identified **will** be required to provide **access** needs and permission for access with **30** days **of** notification **of** approval.

6. **Please indicate what permits or other approvals may be required for the activities contained in your proposal. Check all boxes that apply.**

LOCAL		
Conditional use permit	—	
Variance	—	
Subdivision Map Act approval	—	
Grading permit	—	
General plan amendment	—	
Specific plan approval	—	
Rezone		—
Williamson Act Contract cancellation	—	
Other _____ (please specify)	—	
None required	✓	
STATE		
CESA Compliance	—	**(CDFG)**
Streambed alteration permit	—	**(CDFG)**
CWA § **401** certification	—	**(RWQCB)**
Coastal development permit	—	**(Coastal Commission/BCDC)**
Reclamation **Board** approval	✓	
Notification	—	**(DPC, BCDC)**
Other _____ (please sperify)		
None required	~~✓~~	
FEDERAL		
ESA Consultation	—	**(USFWS)**
Rivers & Harbors **Act** permit	—	**(ACOE)**
CWA § 404 permit	✓	**(ACOE)** - Consult
Other _____ @lease specify)		
None required	—	

DPC = **Delta** Protection Commission
CWA = Clean Water Act
CESA = California Endangered **Species** Act
USFWS = U.S. Fish and Wildlife Service
ACOE = U.S. **Army** Corps of Engineers

ESA = Endangered Species Act
CDFG = California **Department** of Fish **and** ***Game***
RWQCB = Regional Water Quality Control Board
BCDC= Bay Conservation **and** Development Comm.

Land Use Checklist

All applicants must fill out this Land Use Checklist for their proposal. Applications must contain answers to the following questions to be responsive and to be considered **for** funding. ***Failure to answer these questions and include them with the application will result in the application being considered nonresponsive and not considered for funding.***

1. Do the actions in the proposal involve physical changes to the land (i.e. grading, planting vegetation, **or** breeching levees) **or** restrictions in land **use** (i.e. conservation easement **or** placement of land in a wildlife refuge)?

X
YES **NO**

2. **If NO** to # **1,** explain what type of actions are involved in the proposal (i.e., research only, planning only).

3. **If YES to # 1, what is the proposed land use change or restriction under the proposal?**

Four (4) cross levees will be constructed, totalling 25,000 feet.
One (1) high volume pump station will be construsted.
No change in agriculture use.

4. **If YES to # 1, is the land currently under a Williamson Act contract?**

YES **NO**

5. **If YES** to # **1,** answer the following:

Current land **use** Agriculture
Current zoning Agriculture-40 acre
Current general plan designation Agriculture

6. **If YES** to **#1,** is the land classified as Prime Farmland, Farmland of Statewide Importance **or** Unique Farmland **on** the Department of Conservation Important Farmland Maps?

X
YES **NO** **DON'T KNOW**

7. **If YES** to # 1, **how** many **acres** of land **will** be subject to physical change **or** land use restrictions under the proposal?
0

8. **If YES** to # **1,** is the property currently being commercially farmed ***or*** **grazed?**

X
YES **NO**

9. **If YES** to #8, what are the number of employees/acre 1/920 ac
the **total** number of employees 10

10. **Will** the applicant acquire any **interest** in land under the proposal **(fee** title **or** a conservation easement)?

_____	X
YES	**NO**

11. What entity/organization **will** hold the **interest?**_____

12. If YES to # **10,** answer the following:

Total number **of** acres to be acquired under proposal	_____
Number of acres **to** be **acquired** in **fee**	_____
Number of acres to be subject **to** conservation easement	_____

13. **For** all proposals involving physical change ***to*** the land **or** restriction in land use, describe what entity **or** organization **will:**

manage **the** property	Landowner - M ST STATEN RANCH
provide operations and maintenance services	Landowner - M ST STATEN
conduct monitoring	BLM & DWR

14. **For** land acquisitions **(fee** title **or** easements), **will** existing **water** rights also be acquired? N/A

_____	_____
YES	**NO**

15. **Does** the applicant propose any **modifications to** the **water** right **or** change in **the** delivery **of the water?**

_____	X
YES	**NO**

16. If YES to # 15, describe_____

Memorandum of Agreement
July 15, 1998

Whereas, M&T Staten Ranch (M&T) and the Cosumnes River CRP (CRP) participate in conservation efforts to improve habitat for wintering waterfowl in the Central Valley and Delta regions of California, and;

Whereas, M&T and the CRP are actively engaged in wildlife friendly farming practices as part of for profit farm operations, and;

Whereas, M&T and the CRP wish to enhance and perpetuate these practices on Staten Island, each agrees to the following,

A. M&T will provide 3200 acres of seasonal habitat for waterfowl, in the form of flooded crop residue, through staged flood up beginning in September and ending in March for the term of this agreement. Annual plans that include timing, acreage, and duration of flood up will be made in consultation with the Preserve Manager.

B. M&T will work with the CRP to develop diverse upland habitat for wildlife on the interior side of five miles of levee surrounding Staten Island.

C. M&T will work with'the CRP to develop approximately fifty (50) acres of permanent wetlands on Staten Island.

D. 'CRP will provide technical. support for wildlife management practices and will seek funding opportunities, which could be used to perpetuate long-term wildlife friendly farming practices on Staten Island.

.E. M&T and CRP will. assess the potential for use of agricultural easements and conservation easements to maintain existing agricultural practices and to secure additional restoration opportunities, which could include permanent wetlands, non-farmed seasonal wetlands and riparian restoration.

F. M&T will make management practice decisions based on their fiduciary responsibilities for M&T Staten Ranch owners.

.G. .CRP representatives shall be allowed access to existing and potential work locations during the terms of the agreement. The Preserve Manager and Ranch Manager will coordinate all access as related to this agreement.

H. This agreement shall extend for a period of five ***(5)*** years from the date of signing. The agreement may be amended by written approval by both parties. Either party may terminate the agreement with a 60-day notice. Prior to the notice both parties agree to meet and confer in an effort to resolve their .differences.

Rick Cooper 7/15/98
Preserve Manager Date
Cosumnes River Preserve

Ranch Manager Date
M&T Staten Ranch